

Regulations and Permitting Working Group

Interim Report Issues

July 9, 2010

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Policy

Recommendations

1. Ensure that Arizona collects and tracks data reflecting a comprehensive picture of production and use of treated wastewater (reclaimed water). Recommend the agencies review reporting requirements for the various permits in order to improve efficiency in the kind of information collected and how information is reported, stored and accessed; use the expertise/capabilities developed by the regulated community to electronically report and manage data; and accept electronic signatures.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants

Policy Recommendations

2. Encourage expansion of reclaimed water customer base and delivery systems using Groundwater Savings Facility (GSF) incentives for turf facilities currently using groundwater. Review ADWR policy that primarily limits GSF to agricultural facilities.
3. Recommend revisions to ADWR's turf acreage allotment limitations for irrigation use to encourage reclaimed water use over groundwater use.
4. Evaluate ways to provide financial incentives for conversion to reclaimed water use.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants

Policy Recommendations

5. Recommend revisions to ADEQ and ADWR permit requirements for frequency, consistency, and applicability of monitoring including: alert level/discharge limit, water quality (ex. – TOC, Fe, Mn, Ca, Mg, Chloride, Sulfate, Alkalinity), and water levels (ex. - transducer reliability).
6. Provide a reasonable alternative to narrative nutrient constraints which can be applied to urban lakes. Review how lake management plans may be used to comply with narrative standards for urban lakes using reclaimed water.

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Policy Recommendations

7. Review how to encourage rainwater harvesting to develop a new source of local, renewable water supply recognizing the value of “green” infrastructure (capitalizing on water harvesting, reclaimed water use, preservation of riparian corridors and groundwater recharge). Recommend revisions to stormwater Best Management Practices (BMPs) to encourage “green” infrastructure development.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Policy Recommendations

8. Recommend the development of more Arizona Pollutant Discharge Elimination System (AZPDES) permits, Aquifer Protection Permits (APP) and Reclaimed Water general permits for example: develop a general AZPDES permit for wetlands receiving Class A+ reclaimed water quality similar to the general APP in R18-9-D305.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Rules

Recommendations

1. Review reclaimed water rules for revisions including:
 - a. Definitions
 - b. Amendments
 - c. Signage requirements for reclaimed water, gray water, recycled water, etc.
2. Review APP BADCT for sewage treatment facilities and Reclaimed Water Quality Standards for consistency.
3. Review procedures for evaluating, on a case-by-case basis, the need for dechlorination for a riparian project.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Statute Recommendations

1. Review ways to resolve jurisdictional/duplication issues between ADEQ, ADWR, ACC, counties, and other entities. The working group intends to identify issues in greater detail for the final report. Examples include standardization of terms, duplication of reporting and duplication of permitting fees.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Issues for Education/Research Opportunities

1. Enhance education to promote indirect potable reuse, i.e. recharge and recovery with respect to effluent. The standards and framework already exist in statute and rule to regulate this practice.
2. Direct potable reuse may be applicable in the right situation but education and research is necessary to support it.

ADEQ and ADWR Permitting Processes and Revisions to BADCT for Sewage Treatment Plants Issues for Education/Research Opportunities

3. Encourage a coordination of research efforts similar to those under the former Arizona Water Institute (AWI), to investigate the environmental fate, transport, degradation and health effects of emerging contaminants (particularly pharmaceuticals and Endocrine Disrupting Compounds (EDCs)).

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Policy Recommendations

1. Any salinity requirements should be considered on a case-by-case basis and negotiated between the reclaimed water generator and the potential reuser(s). Salinity is a prime example of how one size fits all solutions may be inappropriate. Salinity requirements must be balanced by the value of the end use. For example, salinity or total dissolved solids (TDS), can adversely affect the growth of grasses and other plants unless they are a salt tolerant variety. TDS levels in reclaimed water may be reduced through some sort of membrane technology, usually reverse osmosis treatment; however, reducing TDS is extremely expensive because of capital costs, power requirements, and the cost of disposing of the reject stream, i.e. the concentrated waste product of the treatment process.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Policy Recommendations

2. Consideration of the regulation of water softeners should be a sewer shed by sewer shed issue.
3. The subcommittee recommends that ADEQ clarify when remediated groundwater could be jointly used or commingled with reclaimed water. There was a consensus that this could be allowed through ADEQ policy, as long as the disposal of the remediated groundwater was accomplished through an approved action plan and that the policy did not create a loophole for the disposal of poor quality water.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Rules Recommendations

1. Recommend that ADEQ develop a flowchart/matrix that will clarify the relationships and identify inconsistencies between the AZPDES Permit Program, Surface Water Quality Standards, Reclaimed Water Quality Standards and Aquifer Protection Permits. This should have the impact of removing impediments to reuse and recharge where what is allowed by one program might be inadvertently blocked by another. This is essentially an educational goal so that the agency and the regulated community will have a shared level of understanding about the details of these programs and how they interact. The flowchart should identify what each program covers and where one program ends and the next program starts.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Rules Recommendations

2. The subcommittee will review the existing reclaimed water quality standards to determine if there are any outstanding issues. This should include a presentation to review the current standards. In addition, the subcommittee will look into the last ADEQ five-year review of the standards to see if any issues were identified at that time. Arizona generally gets high marks in relation to other states and our standards have served as a guide for other agencies; however, there should be an examination of current standards. A goal would be to identify re-use areas that will grow over time so that permits could be standardized. This should facilitate use, especially in rural areas. Select categories of industrial wastewater are likely candidates for general permits, e.g., cooling water, and vegetable wash water.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Rules Recommendations

3. Amend the fecal coliform rule R18-11-303-307 to match the BADCT rule R18-9-B204.B.4. which allows the use of *E coli* as an alternative. This will streamline the monitoring requirements, but is equally protective of public health. We recommend that ADEQ put current policy into rule, and that the reuse rule for smaller plants match those for larger plants. ADEQ has a policy that allows this now. We tentatively recommend that ADEQ consider making that policy into a rule. There is a need to identify the data that supports *E coli* will be equally protective of public health.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Rules Recommendations

4. The subgroup reviewed the reclaimed water definition with a view towards defining when reclaimed water loses its character as reclaimed water and becomes groundwater, surface water or other. This had been raised as an issue since there are apparent inequities for some end users. For example, if reclaimed water is discharged to a river and diverted downstream it is usually diverted as surface water. If that same reclaimed water is delivered in a pipeline to that same diverter, it is reclaimed water and has additional regulatory requirements associated with its use. After review, the subgroup found that the existing definitions are adequate. Any proposed change might have the impact of creating additional impediments or creating problems in other regulatory programs.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Education/Research Recommendations

1. Recommend that stakeholders engage in a standards development process that would eventually allow for including direct potable, full body contact, etc. This would include lifting the prohibition on direct potable reuse. It would include identifying standards and monitoring requirements driven by the type of end use, such as for drinking water (i.e. adopting drinking water standards), associated health effects research and the development of indicator parameters appropriate to the end use. These standards should be technology based, employing a suite of treatments such as GAC, high ozone, RO, etc., to address the broad spectrum of potential contaminants.

Reclaimed Water Quality Standards and Associated Monitoring, and Additions to the Allowable End Uses

List Education/Research Recommendations

2. Recommend that the Blue Ribbon Panel (BRP) support research on human health impacts in a traditional reuse setting (e.g. turf irrigation), separate from research into impacts on potable water and traditional in-stream discharge. This would include examination of exposure and risks associated with emerging contaminants (e.g. pharmaceutically active compounds, endocrine disruptors, personal care products) as well as from pathogens (e.g. protozoa). This information would be used to develop monitoring requirements and water quality standards.

Gray Water Rules Recommendations

1. Existing rules permit residential gray water use without concern for lot size. In some cases, lots may not be large enough for use of 400 gallons per day (maximum allowable amount) of gray water.

Gray Water Rules Recommendations

2. Commercial and municipal gray water reuse could be facilitated by new general permits. The fact that few commercial permits exist for gray water use indicates either little interest or a permit process that makes it too onerous for the applicants to be worth the effort. While it is simple for a residential user to implement gray water use, any other customer classification must obtain either a Type 3 Reclaimed Water General Permit for Gray Water or a Reclaimed Water Individual Permit. Both involve regulatory reviews, fees, and time by the applicant and the regulator. There are currently only four Type 3 permits issued and two Individual Permits.

Gray Water Rules Recommendations

3. Rules should accommodate certain types of de minimus gray water use. For example, temporary showers may generate gray water. Currently a request to drain gray water from temporary showers to landscaping requires a Reclaimed Water Individual Permit, an onerous process.
4. A Type 3 Reclaimed Water General Permit for Gray Water stipulates design requirements for setbacks, soil absorption rates, vertical separation distances, trenching and sub-surface irrigation that are the same as requirements for on-site treatment systems. Rule revision should consider appropriate design requirements for the applicable end use.

Gray Water Rules Recommendations

5. It is important that public water systems are protected from contamination by gray water systems. Additional backflow prevention provisions may be considered under R18-4-215.B.2.
6. Type 3 gray water systems should be designed with the ability to direct excess and/or divert all flow to public sewers or on-site treatment systems to address possible system problems and/or the temporary inability to consumptively use available gray water. Type 1 systems are required to be constructed in this manner now.

Gray Water Rules Recommendations

7. New allowable uses should be considered. The subcommittee believes that rules need to consider expanded uses such as those that meet the criteria for the existing allowable uses of citrus and nuts. Drinking fountains and other water features such as splash pads should be considered as generators of gray water as well.

Gray Water Statute Recommendations

1. The current gray water rules allow for cities, towns, or counties to limit gray water use. However, the following State Statute places restrictions on this local control.

ARS 49-204. Gray water reuse

A city, town or county may not further limit the use of gray water by rule or ordinance if the gray water use is allowed by a permit that is issued by the department for the direct reuse of reclaimed water, unless, in an initial active management area that has a groundwater management goal of safe yield and that does not contain a part of the Central Arizona Project aqueduct, effluent has been included in an assured water supply determination pursuant to section 45-576 and the use of gray water would reduce the volume of effluent available to satisfy assured water supply requirements applicable to that determination.

Gray Water Statute Recommendations

2. The subject of incentives to advocate and increase gray water use is an issue identified to have a high priority by the subcommittee. Currently, a corporate and individual income tax credit is available to Arizona citizens for installation of rainwater collection and gray water systems. *A.R.S. 43-1090-01. Credit for water conservation systems* is the state statute that provides for this tax credit. Residential credits are the lesser of 25% of system costs or \$1,000 and are capped at \$250,000 per year. Corporate tax credits are available for installing gray water stub outs. The credit for stub outs is limited to \$200 each and the program is capped at \$500,000 per year. The program expires in tax year 2011. During 2009, only \$120,000 of the tax credit was used.

Gray Water Education/Research Recommendations

1. Design guidelines for gray water systems should provide guidance to users for installation of a functional system as well as be flexible enough to accommodate new technology. System owners need to be aware of the fact that local ordinances may affect the design and installation of gray water systems. Additionally, system owners should recognize the importance of water requirements for specific landscaping without having to develop a technical water balance for their site.

Gray Water Education/Research Recommendations

2. Last of all, the subcommittee will be recommending the State support further research regarding personal care products (PCPs) and their impact on gray water quality health and safety issues.